

in size, hyaline: from 50 to 62 in each perithecium. Spores usually two, oval, sub-hyaline, nearly filling the ascus. Sometimes three or even four spores are found in an ascus. When three occur in an ascus two are of nearly the usual size and the third quite small, and when four occur all are small.

Department of Agriculture, Washington, D. C.

BRIEFER ARTICLES.

Plan of a botanical laboratory—In the GAZETTE for November, 1887, Miss Lillie J. Martin published a plan of a botanical laboratory, which I

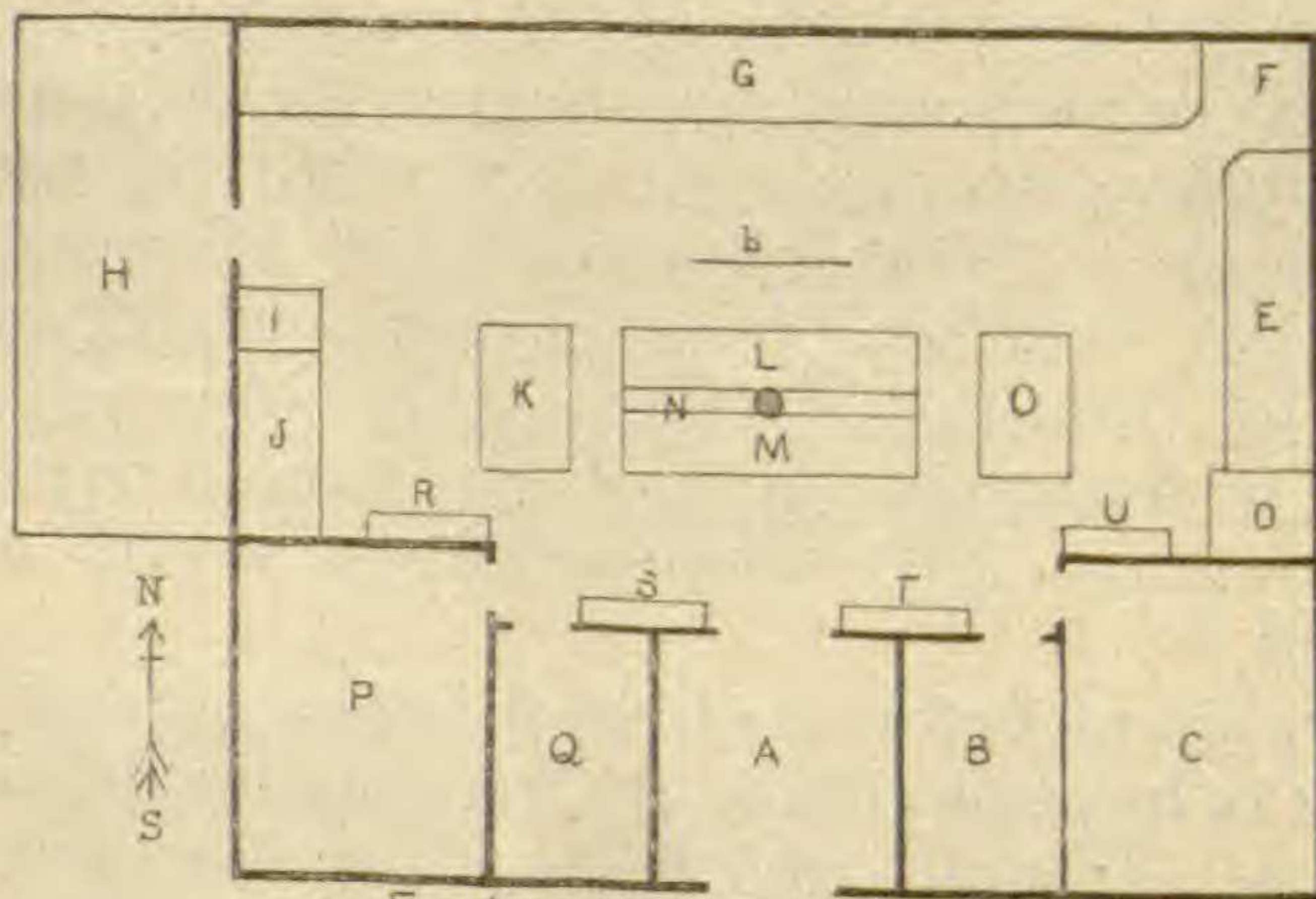


FIG. I.

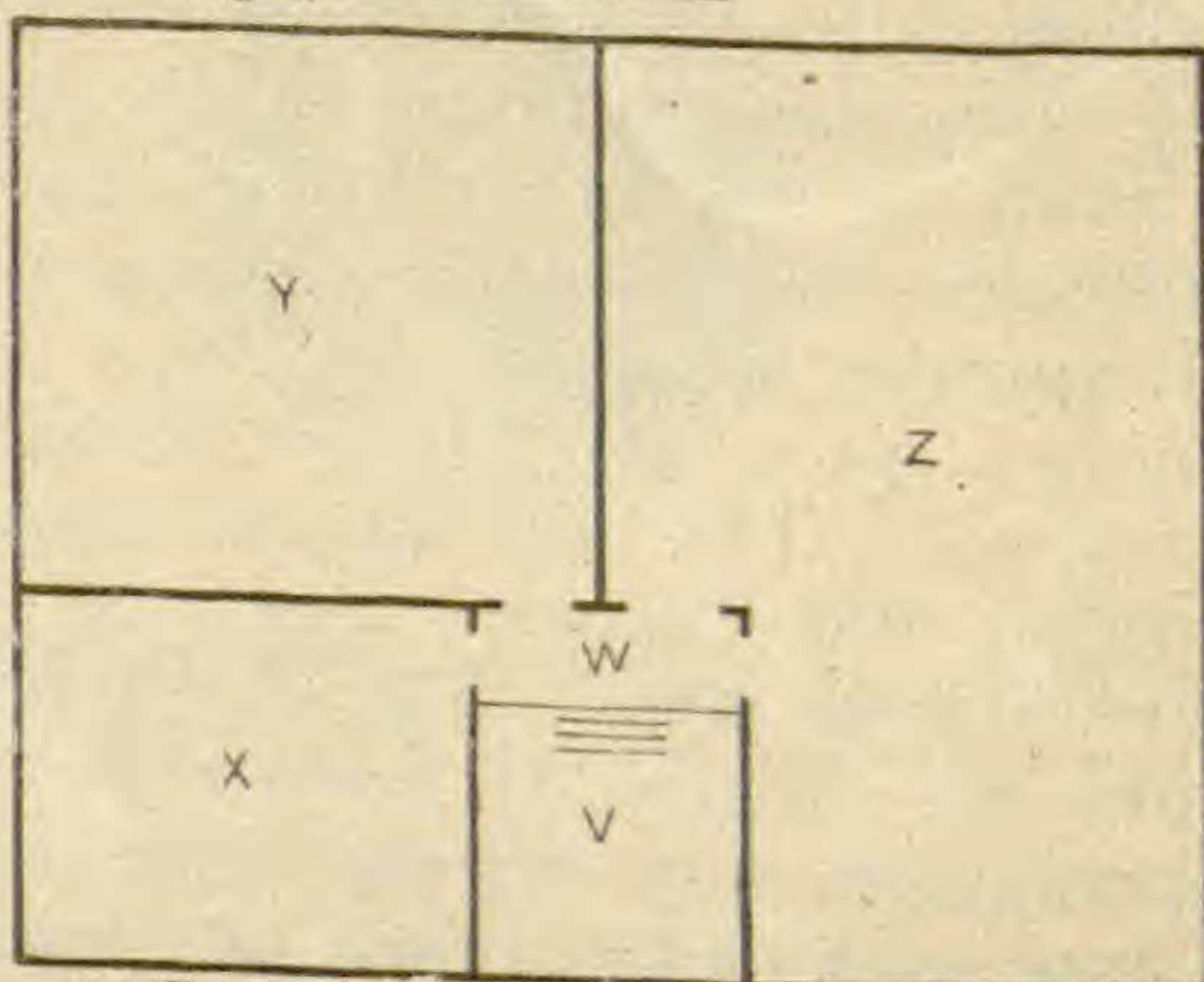


FIG. II.

Designed by S. Schönland.

Size 50 x 40 ft. Fig. I, ground floor, A, entrance hall, with stairway; B, dark room; b, blackboard; C, physiological laboratory; D, hood; E, tables for three advanced students; F, writing-desk; G, tables for twelve elementary pupils (there is room also for a second row); H, green-house; I, oven; J, sink; K, table for general use; L, for large bottles with spirit, distilled water, embedding apparatus, etc.; M, table for chemical work; N, racks for reagents; O, table for microtomes; P, professor's room; Q, room for chemical balance and other delicate instruments; R, S, T, U, cases.

Fig. II, second floor, V, stairway; W, landing; X, library and reading-room; Y, lecture-room, with cases for diagrams, etc.; Z, large room in which models, dried specimens and specimens in spirit are kept. This room may be provided with a gallery.

fear will not be found acceptable by a great many botanists. I shall not criticise it in detail, but I may be allowed to state that the most eminent teachers of botany insist on having their laboratories conform to the following principles:

1. The laboratory should not be used as a lecture-room. Only occasional help by drawing on a blackboard should be given to the students, whereas systematic teaching is to be done in a room specially fitted for the purpose.

2. Models, dried specimens and specimens in spirit should be kept in a separate room, from which they can easily be taken into the lecture-room.

3. Only a few important text-books should be admitted to the laboratory. All other books and periodicals may be consulted in the library.

4. Chemical work should not be done on the same tables on which microscopical work is carried on. Whenever fumes dangerous to microscopes are given off in a chemical process a good hood is necessary.

In order to meet all these requirements I submit another plan. I have not indicated any windows, but have not left them out of account in my calculations. In the laboratory they ought to be as large and numerous as possible, but the exact position of them here and in all other rooms ought to be arranged with an architect, though not entirely left to him. At *R, S, T, U*, spaces are left for cases to hold material for cutting, bottles, mortars, funnels, etc. In the middle of the laboratory an iron column is to support the ceiling. The doors are indicated on the drawing, which will make the general arrangement of a laboratory as I should like to have it much clearer than I could make it by words. I refrain from going into details, as I shall have an opportunity of doing so in a future paper for the *GAZETTE* on the Oxford laboratory. To prevent misunderstanding, however, I have to add that the plan of the Oxford laboratory is entirely different from the one I have designed.—*SELMAR SCHÖNLAND, Botanic Garden, Oxford.*

Effect of the wind on bees and flowers.—It must be a matter of common observation that the wind has an influence on the flight of insects and birds. While in continued flight they seem to have little difficulty in moving with the wind, in rising and lighting they use their wings with more precision when their faces are turned against it.¹ Thus, if a bee comes with the wind, it turns when it visits a plant and lights on the leeward side. If it is visiting flowers regularly, it moves against the wind, since it can rise and light more easily by so doing.

A simple effect of the wind on flowers is that it carries the odors so that they are most readily perceived on the side toward which it blows.

¹ In Florida I saw many buzzards and vultures lighting with their faces to the wind. When disturbed, they rose against the wind and swung around and lighted with their faces toward it. If one passed a few feet beyond where he wished to light, he would make a circle of 200 yards rather than turn with his back to the wind.